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A longitudinal study to determine the conditions surrounding successful or unsuccessful integration of Negroes, Mexican Americans, and Anglos in the Riverside Unified School District in Riverside, California, began in school year 1965-66, and included kindergarten through grade 6. Test batteries placed emphasis on achievement "related attitudes. It was found that, on a delay-of-gratification test, racial differences were not significant, and age seemed to be the primary source of difference between the 3 ethnic groups. It was also found that there was a marked change in dialect tending toward standardization of dialect as measured by Standard California English (SCE). An experiment is planned to determine the effects of changes in comparison referents caused by desegregation of the public school. (DA)

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FACTORS CONTRIBUTING TO ADJUSTMENT AND ACHIEVEMENT

Progress Report

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FACTORS CONTRIBUTING TO ADJUSTMENT AND ACHIEVEMENT IN RACIALLY DESEGREGATED PUBLIC SCHOOLS[1]

Brief Summary of Work Accomplished and in Progress

The goal of this project is to determine the antecedents and concomitants of successful or unsuccessful integration of Negro, Mexican-American, and Anglo children in a public school system. The two major dependent variables under consideration are academic achievement and emotional adjustment. We are analyzing data about the children that have been collected from four different perspectives: the child's parents, his teacher, his classmates, and from evaluation of him made through an extensive test battery.

The general procedure is longitudinal, beginning with premeasurements obtained prior to the implementation of desegregation and successive measurements thereafter. At the present time, we have collected the premeasurement and the first postmeasurement data. The research was conducted in the Riverside Unified School District in Riverside, California, on children who were in kindergarten through the sixth grade during the school year 1965-66.

PHASE I

Spring and Summer 1966

The initial sample included all of the children attending three segregated minority schools and a random sample of Anglo children attending formerly segregated Anglo schools. The initial sample consisted of 712 Anglo, 651 Mexican-American, and 406 Negro children, and 8 from other ethnic groups.

For the predesegregation measures, each child was tested for two one-hour

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1. This study has received support from the Office of Compensatory Education, State of California (McAteer Funds M5-14, M6-14, and M7-14), the Regents of the University of California, and the Rockefeller Foundation.

sessions by a psychometrist who received specific training to administer the instruments.

The first session proceeded as follows: The psychometrist, after checking with the school office, walked the child from his classroom to the testing room. During this stroll, the psychometrist collected some initial data in the process of establishing rapport with the child. When they arrived in the testing room, the child's ability to delay gratification was tested with a procedure patterned after a measure developed by Mischel (1958). The child was asked to pass up a small pleasure in the present in lieu of a larger pleasure in the future. He was offered a choice of either a small candy bar that he could have immediately, or a larger candy bar that he could have at the end of the interview. Earlier work has shown that children gain in the ability to postpone pleasure as they mature. This ability would appear, on the surface at least, to be a good predictor of school adjustment and academic success.

Several questions followed which attempted to determine the child's academic and vocational aspirations.

Through a series of sketches that were shown to the child, we attempted to determine his self-perceptions. The child's task was to select a figure in each picture that he thought represented his role. He then chose the figure he would most like to be. These choices permit comparison with similar role choices made for him by his teacher and by his peers.

He then played a simple ring-toss game used in a manner similar to that developed by McClelland (1953). The child chose how close to the peg he wished to stand for his tosses. He then guessed how many of the nine rings he would get on the peg. After his nine tosses, he again chose a line and estimated his score. This procedure was repeated several times both with a free choice of distance and

with the child standing at a fixed distance from the peg.

The child was then shown a set of six color photos of the faces of elementary school age boys: two Mexican, two Negro and two Anglo. The child was told that he did not know these boys but was to look at the pictures and make some guesses about them. He was then asked to select the kindest, the next kindest, and so on, until he had ranked all of the faces as to their kindness. He was then asked to rank the pictures with regard to how happy the children are, how strong, how fast, and as to who gets the best grades. He then repeated the above procedure with a similar set of girls' pictures. Next he was shown the pictures of his own sex again, and was asked to select the one most like himself, the one he would most like to be, and the one he would most like to have for a friend. This test should tend to detect the child's acceptance of the usual stereotypes prevalent toward the three ethnic groups.

The next test was part of the Supplement of the Children's Apperception Test (Bellak & Bellak, 1964). The child was asked to tell stories about pictures of school and play situations. These stories, which were recorded on tape, are being analyzed for achievement motivation, linguistic usage, anxiety, and responsiveness to verbal reinforcement.

The next measure was taken using an apparatus adapted from Witkin's (1954) "rod and frame" test. The child peers through a face-size opening into a wooden box four feet long by eighteen inches high and eighteen inches wide which is placed on a table. At the far end of the box is a silhouette of a man surrounded by a square frame,both having been coated with luminous paint. The angular tilt of the man and frame can be independently controlled from the rear of the box. By turning a knob at the front of the box the child is able to adjust the tilt of the man. The child's task is to line the man up with the true vertical by not paying attention to the position of the frame. The child had four trials with different

initial settings of the tilts of the man and the frame with his chair in each of three positions: upright, tilted to the right, and tilted to the left. If Witkin's conclusion to the effect that field dependence reflects a basic personality disposition is tenable, we would expect to find that the measure will be a good predictor to adjustment and achievement in the mixed classroom.

After the man-in-frame task, the psychometrist rated the child on a number of dimensions such as health, interest in the tasks, and anxiety, which were taken from the Sten Rating Scales. This ended the first testing session.

After about a month the child was tested again. The first task in the second session was designed to measure the child's responsiveness to social reinforcement. The reinforcer was administered while the child was telling stories about the CAT pictures. The child told stories about four pictures. No reinforcements were administered during the story the child told about the first picture. The amount of verbal output for this picture provides the base rate data. The child was liberally reinforced according to a fixed schedule for the second and third pictures and then received no reinforcements for his story to the fourth picture. His responsiveness to reinforcement score is the change in output for the fourth story as compared with the first.

The next task was based on the paradigm developed by Brehm (1956) to measure postdecisional dissonance reduction. All decisions have negative consequences inherent in them to which the person presumably accommodates. The extent to which the chosen alternative is overvalued relative to the rejected alternative(s) has been taken as one measure of this accommodation. We assume that the tendency to reduce dissonance would predict to the child's adjustment to the mixed classroom. We therefore designed a measure to test this tendency. Specifically, the child was shown ten toys and asked to rank them according to which he liked best. At the very end of the testing, the child was offered his choice between the toy he

had ranked third and the one he had ranked fifth. His choice and the time he took to make it was noted and he was again asked to rank order the toys. Dissonance reduction would be reflected in the tendency for the chosen toy to move up in rank relative to the rejected toy.

Following the dissonance measure we administered the Raven's Progressive Matrices Test (1962). This consists of designs with a piece missing from each one and the child is asked to choose the missing piece from among four alternatives. This is a reasoning test that is assumed to be more culture free than those usually administered in school situations and should provide interesting comparisons with the Peabody Test described below in the ability to predict school achievement.

The next series of paper and pencil type items were selected from various standard personality and anxiety measures, such as those of Cattell (1965) and the Edwards Personal Preference Schedule. These items were selected to measure four dimensions: (1) general anxiety; (2) perception of others' attitudes towards self; (3) attitudes towards self; and (4) school anxiety. Fourth through sixth graders also had questions measuring achievement motivation.

The Peabody Picture Vocabulary Test was then administered. This is presumably a measure of verbal intelligence.

Following the Peabody, a Vulnerability to Peer Pressures Test was administered which was patterned after the early work of Asch (1951). The child was shown a series of cards, each having three silhouettes of the same object in three different colors: blue, orange, and yellow. The three silhouettes differed slightly in size from one another. The interviewer then stated, for example: "Most children say the blue dog is biggest. Which do you think is biggest?" The purported group consensus was incorrect on eight of the twelve trials. The child's conformity score is the number of these trials on which he was swayed by the group.

As the next task for the kindergarten through third grade, the child was asked to sort a deck of cards depicting scenes involving a child in various everyday situations into a "happy" and a "sad" pile, a task originally developed by Bower and Lambert (1957) to measure adjustment. The adjustment score is simply the number of cards the child classifies as happy. For the fourth through sixth graders, the "thinking about yourself" booklet from the same study was used instead of the "happy-sad" pictures. This booklet consisted of statements about an imaginary child. The child being tested then indicates the extent to which he is like that child. Later in the schedule the child is asked whether or not he wants to be like the child mentioned. The child's adjustment score is based upon the number and size of the discrepancies between his actual and ideal self.

At the conclusion of each of the two one-hour testing sessions, the child was asked to draw a picture. At the end of the first session he was asked to draw a person and at the end of the second he was asked to draw a picture of himself. Such pictures have been scored for intelligence (Goodenough, 1955) and as projections of personality (Machover, 1951; Harris, 1963).

Again at the end of the second session, the psychometrist rated the child on a number of behavioral dimensions.

During the same time period, behavior ratings on each sample child were obtained from the teachers. These behavior ratings contained the following measures:

1. Emotional adjustment.
2. General anxiety.
3. Response to school situations.
4. Personality configuration of sample children.

During the summer 1966, interviews were conducted with parents of each of the sample children. Fifty interviewers and five supervisors were trained to conduct the field work. The interviews covered the following areas:

1. Parent attitude toward integration.
2. Parent attitude toward school.
3. Parents' occupational and educational aspirations for the child.
4. Parents' upward mobility aspirations.
5. Anomie.
6. Willingness to permit child to be independent from the home.
7. Neighborliness.
8. Ties to kin.
9. Measures of cultural and structural integration.
10. Standard demographic information.

All of the data collected from the children, parents, and teachers had to be edited, screened for keypunch errors and inconsistencies, and had to be arranged for recording on magnetic tape. At the present time, all of the data are available for processing on our IBM 1800.

PHASE II

Spring and Summer 1967

Child Testing

In February 1967, field work began for the first postmeasure on the children. During the two testing sessions, the following premeasures were repeated:

1. Attitudes toward school.
2. Occupational and educational aspirations.
3. Ability to delay gratification.
4. Attitude towards self.
5. Perception of others' attitudes toward self.
6. General anxiety.
7. School anxiety.
8. Achievement motivation.
9. Children's Apperception Test responses recorded on tape to be analyzed for achievement, linguistic usage, anxiety, and responses to verbal reinforcement.
10. Emotional adjustment.
11. Involvement in school activities.
12. Draw-a-Person Test.
13. Level of aspiration.
14. Field dependence vs. field independence.
15. Response to peer pressures.
16. Attitudes toward own and other ethnic groups.
17. The sociometric structure of each child's classroom.

The delay of gratification task used in 1966 was not repeated nor was the dissonance measure because the offer of tangibles such as candy and toys tended

to disrupt normal school-day routines and there were several complaints from parents. The Peabody and Raven were not repeated because it was assumed that there would not be any significant change in these scores over the one year.

Three new measures were introduced in the 1967 test battery: a new delay of gratification task and measures of locus of control and desire for mastery.

The new delay of gratification measure was administered at the beginning of the first testing session. The child was encouraged to play with several very attractive toys. After 30 seconds, he was told that he could continue to play with them for a few minutes, or if he waited until later, he would be able to play with them for a much longer time.

An ancillary measure of delay of gratification, which was modeled after some work by Mischel (1958), was based upon the child making hypothetical rather than real choices. Three such choices were used. The child was asked on the first item to decide whether a child who earns 50 cents a week for doing chores should spend his money immediately for soda and candy, or save his money week by week until he has enough money to buy a game or toy. The second item asked the child to choose between buying a highly desirable toy next week or buying a less desirable toy now. The third and final item asked the child to choose between doing homework now and playing with a friend later or doing homework later and playing with a friend now.

The locus of control measure, which was a modification of the I A R Scale of Crandall, Katkovsky, and Crandall (1965), was composed of eight items with an agree-disagree response format and ten items with a forced-choice format. Examples of the former are: "Can you do anything about what is going to happen to you tomorrow?" and "When bad things happen to you, is it usually someone else's fault?" Examples of the forced-choice format items are as follows: "When you do well on a test at school, is it more likely to be (1) because you studied for it,

or (2) because the test was especially easy?" and "When you play a game with someone and lose, is it usually (1) because the other player is good at the game, or (2) because you don't play well?"

The desire for mastery measure was based on the child's preference for a completed or uncompleted puzzle. At the beginning of the second testing session, the child was given a simple jigsaw puzzle to work on and complete. He was then given a second puzzle and allowed to complete about one-third of it. Later in the testing session, he was given a chance to work on either the puzzle he had completed or the one he had not completed. If he chose the uncompleted puzzle he was scored high on desire for mastery and if he chose the completed puzzle he was scored low.

Teacher Ratings

Each teacher was again asked to complete individual ratings on each sample child in her classroom. The same behavior ratings were used as in the premeasure, thus giving us a before and after rating.

Sociometric Ratings

As in 1966, it was possible to secure the classroom sociometric pattern of every class in the school district that contained one or more of our sample children. These data will enable us to derive the pre- and postdesegregation position of each child in his class.

1967 Parent Interviews

As projected in the original proposal, parents of the sample children were reinterviewed during the months of July and August. Whereas both parents were interviewed in 1966, we limited the 1967 interview to one parent, usually the mother.

The parent schedule for 1967 was organized into two sections, one containing items from the 1966 schedule which were repeated. Specifically, parents were

asked their opinion of integration, the educational and occupational aspirations they had for their children, and questions concerning involvement in school activities. The second section of the interview contained four additional measures:

1. Feelings of personal efficacy in relation to the schools.
2. A so-called unobtrusive measure of attitudes toward ethnic groups.
3. Authoritarianism.
4. Internal vs. external locus of control.

The response to the parent interviews was exceptionally gratifying. Whereas most longitudinal studies experience a marked increase in refusals during the second wave of interviewing, our rate of refusal has been negligible. We were able to interview many parents who had decided to send their children to parochial schools. We have also tested some of these children.

Transcription of the CAT

The transcription of the CAT protocols collected in 1966 is approximately half complete. This is a very tedious and expensive process but we hope it will be worth the effort and expenditure since a number of measures and substudies depend upon these protocols.

Achievement Scores

Near the end of every school year each child in the district takes a battery of achievement tests. We have these scores for 1966 and 1967 ready for processing on the IBM 1800.

1800 Computer

A great deal of work has gone into having the IBM 1800 computer installed and in generating the system to process the data on the 1800 discs. Some initial missing data analyses have been done on the first year's data. A statistical analysis and data manipulation system has also been written for the IBM 7040 which is located on the University of California at Riverside campus. This system was used

for some analyses of the 1966 data. Based upon this work a more complete statistical system is being written for the IBM 1800. A partial system has been written and is partially debugged. This system, which we call DATAX, is tailored to our data. The data will be stored on-line and accessed through the console typewriter. We are also developing programs to generate sociograms and a sociometric position index.

Some Preliminary Findings

The CAT, administered on the second schedule in 1966 was designed, in part, to measure responsiveness to social reinforcement. A "reinforcement effectiveness measure" was derived which indicates how responsive the child was to verbal reinforcement. Irwin Katz (1967) found that the race of the dispenser of the reinforcements influenced reinforcer effectiveness. He cites experiments which show that performance on a digit-symbol task for Negro children was better with a Negro than with an Anglo tester. He also reports results which indicate that Negro college students who had been average achievers in high school were discouraged at the prospect of being evaluated by a white person, except when they were made to believe that their chances for success were very good. On the other hand, Negro students with a history of high academic achievement seem to be stimulated by the challenge of white evaluation, regardless of the objective probability of success.

Another experiment (Katz, 1967) showed that in order to understand the effects of positive and negative social reinforcement on Negro children, it is necessary to take into account the need state of the individual child and the racial identity of the adult dispenser of reinforcement. His results may have implications not for biracial teacher-pupil pairs per se, but only for situations in which the Negro child perceives the white person as hostile, unfriendly, or disinterested.

In sum, Katz points to the importance in the learning situation of the relationship between the race of the experimenter to the race of the child, and that differences can be expected depending on the variation of this relationship. Since our data include all possible combinations of race of child and race of the dispenser of reinforcement we can determine whether the differences Katz reports will also occur in a child's responsiveness to social reinforcement.

A small random sample of the total sample was selected in order to determine whether children from the three ethnic groups responded differentially to reinforcement. The results indicate that the stories of Anglo children increased in length with reinforcement, the story length for Mexican-American children was unaffected, and the stories of Negro children became shorter. Grade and sex were matched for all subjects in this preliminary analysis. Because this analysis is most encouraging, further work with the reinforcement measure will continue with the total sample. The analysis suggests that IQ may be confounding the ethnic difference. When IQ is controlled, ethnic differences tend to decrease, although not completely. A small preliminary study was carried out to investigate the effects of race of interviewer and the interaction of the race of interviewer and child on story length. Results indicate that race of interviewer and the interaction had no significant effects on story length. These encouraging results are being explored further using the total sample.

An anxiety measure is also being developed from the CAT protocols which is based on the earlier work of Mahl (1956) and Zimbardo, Mahl, and Barnard (1963). We ran into problems in attempting to use the Mahl index which did not seem to be as reliable in our application as it apparently was for Mahl. One difficulty is that the speech categories are not distinguished as to their importance or weight in the overall measure. We decided to use the medium of a laboratory experiment to develop a measure that would be more appropriate for our purposes.

The main experimental factor in the experiment was the induction of anxiety. Half of the subjects were made anxious half way through a story-telling session whereas the other half were not made anxious. Subsidiary factors were introduced in a factorial design. The speech description and physiological data collected on the 128 children used in the design are currently being analyzed.

A different index is being designed including definitions of speech parapraxes based upon actual children's conversations. A new approach to coding our protocols will allow us to detect the syntactic position of each parapraxis. A stress situation tends to increase the frequency of parapraxes otherwise occurring in normal speech. When this analysis is complete we hope to have in hand a speech anxiety measure to apply to the main body of data collected in 1966 and 1967. Speech anxiety will be used as an indicator of emotional adjustment.

Attitudinal Variables

The test batteries focused a great deal on achievement related attitude. We are preparing a monograph describing the results of the premeasurement phase on the total sample of 1,779 children in which we will present a profile of these variables by ethnic group, sex, and age with intercorrelations among the measures and an examination of how the measures relate to home and classroom variables.

A number of measures show definite growth patterns, the most striking being the man-in-frame and level of aspiration tests. The results show decreasing field-dependence with increasing age, with boys being more field-independent than girls. These results are in line with the earlier work of Witkin et al. (1954). We also found that Anglo children are considerably less field-dependent than either Mexican-American or Negro children across all age levels. We are exploring the effects of certain moderating variables such as intelligence and socio-economic status on these relationships.

Three level of aspiration scores were derived from the ring-toss data: The

initial line that the child chose to stand on, the mean goal discrepancy, and the mean attainment discrepancy. We find that with increasing age, the child chooses a more distant line from which to throw. There is also a significant difference between males and females, i.e., males stand farther away than females. We have thus far found no ethnic differences of significant magnitude. The mean goal discrepancy, as a measure of LOA, was obtained by taking the difference between the expected score the child thought he would receive on a particular trial and the score he had actually made on the previous trial, averaged over trials. A third measure, mean attainment discrepancy, is the average of the differences on trials 1 through 10 between the expected score and the actual score on that trial, scored as positive if attainment is higher than the expected score and negative if it is lower. This latter measure reflects the feelings of success or failure attending the performance. Goal discrepancy and attainment discrepancy scores are currently being analyzed.

A third promising area of analysis dealing with vulnerability to peer pressures is proceeding. As described above, during the test the child is confronted with a simulated group consensus which is false on eight out of the twelve trials. Analysis shows that as age increases, susceptibility to group pressure decreases linearly; in other words, the older the child, the less likely was he to report peer judgments on the critical trials. No significant ethnic group or sex differences appeared in the preliminary analysis.

With regard to ability to delay gratification, the only significant difference was found with age. The older the child, the more was he able to delay gratification. No significant ethnic group or sex differences are indicated in the preliminary analysis.

The tolerance for dissonance test shows significant grade and ethnic group differences. More particularly, as age increases, regret decreases. Also,

Anglos show the least regret and Negroes show the greatest regret with Mexican-Americans falling in between.

The results of a preliminary analysis indicate that the measure derived from the ethnic pictures has a great deal of potential, not only as a predictor to achievement and adjustment, but also as a rich source of information about the development of racial attitudes.

Graphing the results, the greatest differences among the ratings of the three ethnic groups occur on the dimensions of "kindest," "happiest," "strongest," and "best grades." The rankings of "fastest" indicate relatively minimal differences between the ethnic groups. Specifically, Anglo boys are ranked highest on "kindest," "happiest," and "best grades." Mexican-American boys are ranked highest on "strongest." Many interesting and potentially important subtleties appear in the data which we suspect will provide good indicators of the course of desegregation. Statistical analyses are now being carried out for sex, age, and ethnic group.

Dialect Changes

Many, if not most, of the minority children speak with an accent. In the case of the Negro children the accent tends to be a southern regional one. Many of the Mexican-American children, who come from a bilingual environment, have a distinct Spanish inflection. We suspect that dialect change will be a sensitive index of assimilation into the new peer group. To the extent that the child is accepted in the new classroom we would expect his speech to change due to social influence on speech patterns that exist within the peer group.

In the first phase of this study we are attempting to determine those properties of speech that constitute regional or Spanish dialect influences. The primary task involved is (1) to develop dialect criteria that are measurable; (2) to test the reliability of these criteria; and (3) to evaluate the dialect

by comparing it against standard California English (SCE). Dialect differences occur in the following sub-areas of spoken English:

1. Word-order (syntax). Here we determine how frequently simple sentence structures, incorrect sentence structures, and unconventional sentence structures are used as compared with sentences in SCE occurring for children in the same age group as the child whose speech is being analyzed.

2. Deviant word-preference. Minority children tend to use substitute words for certain words occurring in SCE in these utterances.

3. Pronunciation. Pronunciation is the sub-area where there are marked dialect differences. For example, certain diphthongs are used less frequently by Mexican-American children than are ordinarily found in SCE.

4. Word and sentence stress. Word and sentence stress are closely related to pronunciation. When the speech of Mexican-American children is compared with SCE, we do find differences in stress, both for the single word and for sentences.

In the pilot study, we are using a small sample of the tape recorded CAT stories collected in 1966. The sample includes five children at three different age levels from each ethnic group. The dialect score for each protocol is the ratio of the number of instances of dialectal speech, as defined by the above categories, to the total speech output in the given protocol. The pilot data show evidence of dialect changes toward SCE as age increases for both minority groups with these changes being much more marked for the Mexican-American subsample. This may be evidence of greater assimilation of the Mexican-American children than Negro children prior to desegregation.

The second and major phase of the dialect study, which is under way, will involve comparing the degree of dialectal speech of a given child before desegregation with his speech after a year of the desegregated experience. These changes for all of the children will be correlated with their sociometric status

within the new peer group. We expect to find convergence toward SCE to the extent that the child has been assimilated within the Anglo peer group. Since some of the children attending the Casa Blanca school were not desegregated until the fall of 1967, we are provided with a built-in control against which to evaluate dialect changes for the Mexican-American sample.

Level of Aspiration Study

After desegregation the minority child is suddenly confronted with a radically new social situation in which he is one of a small number of minority children in a predominantly Anglo classroom in which academic competition is likely to be keen. The Anglo child also finds himself in a new situation involving some children who are academically retarded. This will tend to provide him with a different comparison group than existed prior to desegregation. As yet there have been no systematic studies of the effects of such radical changes in comparison referents. The success or failure of the child in this new situation will depend to a great extent upon his response to these new comparison norms. Since systematic evidence concerning such effects is lacking we undertook an experimental investigation of the process. To date two experiments have been completed and others are being planned.

In the first study, Negro and Anglo children played a target-shooting game in which each was led to believe that he was competing against either someone of his own race or someone of the other race. The situation was contrived such that half of the children scored considerably higher than their opponents whereas the other half scored considerably lower.

Previous research has shown that Negroes do not perform as well when competing against whites (Katz, 1964). Likewise, whites tend to overestimate the performance of whites and underestimate the performance of Negroes (Clark & Campbell, 1955). It has been argued that minority members tend to internalize the

stereotypes the majority group holds toward them. This was not shown to be true of the Negro high school students in the Clark and Campbell (1955) study. The little work that has been done on intra- and interethnic ability comparison has used either late adolescents or young adults, whereas virtually nothing is known about comparison processes among children. If we are to gain some understanding about the development of self-attitudes, which is presumably the crux deficit problem, comparison processes among children must be studied.

Method. One subject (S) was assigned to each of the eighty cells of a 2 x 2 x 2 x 2 x 5 factorial design. The five experimental factors were: success of S during competition (win or lose); S's ethnic group (Negro or white); the ethnic group of S's opponent (Negro or white); sex of S and opponent; and S's grade level (one, two, three, four, or five).

S was taken individually from his classroom by a white female experimenter (E) who taught him how to play a simple target game. She told him that an opponent was playing a similar game in another room and that the two games were wired together so that each person's score would be visible to himself and to his opponent. Actually there was no opponent. S's score and that of the opponent were preprogrammed by E for the entire sequence of trials. Assignment to treatment combination was made on a random basis.

Before starting to play the game E took a color polaroid photo of S. She then left the room and returned with what S was told was a photo of his opponent and she told S that she had given his photo to his opponent. Actually the photo of the opponent was a standard photo of either a Negro or a white child of the same sex as S. These same photos were used throughout the experiment.

Results. Results for three main response measures will be reported: the subject's estimates of the score he would make for each of five trials; his estimate of his opponent's score for each of those trials; and his score on a mood scale administered after the fifth trial.

(1) White Ss were more realistic than Negro Ss in predicting their future scores. As compared with Negro Ss, white Ss' estimates of their future performance were influenced more by the false score feedback they received on prior trials. This suggests that Negro children may require more performance feedback than white children in setting realistic aspirations. It is important to note, however, that these data were collected by white experimenters. Other research (Katz, Epps, & Axelson, 1964; Katz, Robinson, Epps, & Waly, 1964) has shown that Negroes perform differently when they are tested by Negro as compared with white examiners. Our results must therefore be qualified in the light of the fact that our Es were both white.

(2) S's self-estimates were affected by the opponent's race. Boys in the success condition expected higher scores when their opponent was white, whereas in the failure condition they appeared to be unaffected by the race of their opponent. Girls in the failure condition expected higher scores when their opponent was white and seemed to be unaffected by their opponent's race when they had experienced success. We have not as yet attempted to interpret this complicated interaction.

(3) A significant sex by score (success or failure) interaction occurred in estimating the opponent's score on the next trial. In the failure condition, boys accurately estimated their opponent's score whereas girls underestimated it. In the success condition, both boys and girls overestimated the opponent's score, but girls overestimated the opponent's score to a greater degree. No racial effects were found.

(4) The Mood Scale data indicate that white subjects were happier when they won than when they lost. Negro subjects, on the other hand, appeared to be happier when they lost than when they won. This startling effect was due primarily to the data for the Negro girls. These Mood data may reflect the subject's reaction

to his performance expectations. The white child may normally expect success and reacts with displeasure to failure whereas the Negro child may have been conditioned to expect failure and reacts with relative displeasure when his expectations are not confirmed, namely when he succeeds. Other research on the effects of experimentally induced expectations tend to support the conclusion (Aronson & Carlsmith, 1962; Gerard, Blevans, & Malcolm, 1964). Further research is planned to test our tentative interpretation by counterposing it with several other possibilities.

The effects of failure upon a Negro child's self-attitudes when he is in competition with whites and when the possibility of prejudice attribution exists.

Previous literature suggests that Negroes behave quite differently when competing with white as compared with Negro opponents (Katz, 1964). The results of such research have often been explained by reference to the deleterious effects of anxiety and other types of affective arousal on performance. This effect may be mediated by the attribution of prejudice by the Negro to his white opponent(s). Under the circumstances the Negro may feel that his opponent is "out to get him." In a mixed motive situation where competition depends upon a certain amount of cooperation it is possible for the Negro to explain his own negative outcomes by attributing prejudice to the majority members. Another interpretation of the performance decrement shown by the Negro is that it is due to the arousal of negative self-attitudes when he competes with a white opponent. This could account for performance decrements in either a purely competitive situation or one involving mixed motives. The "attribution of prejudice" interpretation involves an indirect two step process that depends upon the disrupting effect of the attributed attitude of the opponent whereas the "arousal of negative self-attitudes" involves the direct effect of the context on self-feelings. Jones and Gerard (1967) refer to these two processes respectively as reflected and comparative appraisal.

These interpretations could be counterposed if a competitive situation in which prejudice attribution were not possible could be compared with one in which that possibility existed. The present study was designed to contrast these hypothesized processes in a situation in which a Negro child is competing with white children. The effects of the competitive situation were also assessed on a subsequent task where the Negro child was no longer competing against whites but rather against a self-imposed standard.

Design. In the first part of the experiment four Negro children of elementary school age played a simple competitive game in which their aim was to get other group members to send them "plus tickets." By employing a ruse all subjects thought that they were competing with three other white boys. Each subject had a supply of tickets. On each trial, he could mark a ticket with a plus or minus and send it to any of the other children. After this game, subjects filled out a questionnaire and were then individually taken to separate rooms where they played a ring-toss game. The design of the experiment was a 2 x 2 factorial in which the manipulated variables were severity of loss during the ticket-passing phase and whether or not the subject thought that the three "white boys" knew that he was a Negro.

Results and Discussion. Since the forms passed around to the subjects prior to the start of the ticket-passing game displayed no meaningful differences among the three opponents, and since the feedback from the three opponents was equivalent, no differences in the number of type of tickets passed to each of the three opponents should be expected. Instead, a single response measure was employed which was the number of plus tickets sent to all three opponents. Analysis of the ticket-passing phase revealed no significant differences. Differences, however, did appear on the ring-toss game. When the outcome in the ticket-passing game

could not be attributed to prejudice, the subject in the severe losing condition tended to choose a more difficult line to throw from than did the subject in the less severe loss condition. On the other hand, when prejudice could be invoked as an explanation of one's outcome in the ticket-passing game, the subject in the more severe losing condition tended to choose an easier line than those in the less severe condition. This interaction was paralleled in the data on estimated success. Quite understandably, when subjects chose an easier line, they expected to perform more accurately. Most interesting was the outcome in terms of actual success. On the first ring-toss game the expected outcome of poor performance by those in the "prejudice"condition was in fact obtained. In the latter ring-toss games there was an effect for severity of loss during the ticket-passing game. Those who were in the more severe loss condition did more poorly in the ring-toss game than did those in the less severe loss condition.

The questionnaire items were pooled to produce an index of favorability of self-evaluation. Analysis of these scores showed that when the subject could attribute his outcome in the ticket-passing phase to prejudice on the part of others he tended to evaluate himself more favorably. This may be evidence of defensive self-bolstering through which he could tell either himself and/or the experimenter that he was really worthwhile. In this regard, it is important to note that the questionnaire items were direct, undisguised a priori scales. Analysis of other items lend additional support to the data from the direct questions. Thus, on the question, "When you play a game, how much do you worry about how well you will do?" those in the "prejudice" condition report less worry. Another item which asked subjects to rate themselves on a five-point scale running from very happy to very sad yielded a significant interaction. When prejudice could not be attributed, subjects who lost severely tended to rate themselves as less happy. On the other hand, in the "prejudice" condition subjects tended to

rate themselves happier when their loss was more severe.

To summarize we can say that when it is possible for a Negro child to think that his own poor outcome is due to prejudice on the part of others it appears to result in defensive reactions as well as relatively poor performance on a subsequent task. Furthermore, it tends to result in setting lower aspirations on the subsequent task which therefore makes it more likely that he will experience subsequent success.

The relationship of teacher characteristics to pupil achievement.

Data havebeen collected this past year on all the teachers in the elementary schools who have now or have had sample children in their classes. A questionnaire was constructed to measure teacher characteristics that might be related to pupil achievement. Questions were directed at gaining information about methods of discipline, curriculum changes, attitudes towards ethnic groups, and techniques teachers use to motivate children. At the present time, these data are being edited and keypunched.

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